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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,796	03/07/2002	Jonathan D. Smith	RBC-101US	3409

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EXAMINER

HAYES, BRET C

ART UNIT	PAPER NUMBER
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3644

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,796

Applicant(s)

SMITH, JONATHAN D.

Examiner

Bret C Hayes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 55-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 55-89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102 & § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1 – 11, 18, 55, 75, 81 – 86 and 90 are rejected under 35 U.S.C. 102(b) as anticipated by Stang, Elden J. and Birrenkott, Brian A., “Plant Growth Regulators Alter Fruit Set and Yield in Cranberry (*Vaccinium Macrocarpon* Ait.)”, Acta Horticulturae 241, 1989, pp 277-283, (Stang et al.).
3. Re – claims 1 – 11, 18, 55, 75, 81 – 86 and 90, Stang et al. disclose: applying to cranberry plants a plant growth regulating compound such that most of the cranberries have a mature mass less than 0.6 grams – wherein the Mean fruit weight is 0.47 grams and 0.53 grams for GA₃ and GA₄₊₇, respectively; the applying step being during the mid-bloom period; there being a single applying step; the composition being applied when about 50-100% of flowers have opened (bloom percentages); the active ingredient including gibberellin; a solution including the composition is applied to the plants; the solution being an aqueous solution; the composition being GA₃; the concentration of composition within the solution being 25-100 ppm; and the application being accomplished by spraying.

In this case, Stang et al. obfuscate matters by giving the Mean fruit weight as less than the 0.5 grams disclosed as the lower limit in TABLE 1 beneath ‘No. fruit by weight’ with regard to the use of GA₃ at least. Perhaps it would have been more precise to label this limit as less than 0.6 grams instead. The fact is that Stang et al. disclose, at least mathematically, the average weight being less than the claimed 0.6 grams.

Referring to Table 1, Stang et al. state that the Mean fruit weight of the cranberries is 0.47g for GA₃ and 0.53g for GA₄₊₇. For GA₃, multiplying 9 of the fruit times 0.5 grams (= 4.5 grams), 28 of the fruit times ((0.6 times 1.0) divided by 2) grams (=21.6 grams), and 2 of the fruit times 1.0 gram (= 2 grams), results in 38 pieces of fruit having a combined weight of 28.1 grams. Dividing 28.1 grams by 38 results in 0.74 grams per cranberry, on average. Performing like mathematics for the GA₄₊₇ results in 0.77 grams per cranberry. Clearly, Stang et al. do not state the Mean fruit weight as 0.74 grams or 0.77 grams, but rather as 0.47 grams and 0.53 grams, respectively. How could this be?

One way this occurs is due to rounding. Where exactly do Stang et al. define the difference between 0.5 grams and 0.6 grams? It does not appear within the paper. However, assuming 0.54 as the bottom limit, wherein any weight greater than or equal to 0.55 grams would round up to the 0.6 – 1.0 gram range, 0.5 grams still cannot be an absolute bottom limit. Further, assuming a bottom range of between 0.01 – 0.54 grams, and multiplying 9 by the average value, $(0.01 + 0.54)/2$, or, 0.275 grams, results in 2.475 grams. Likewise, $(0.55 + 1.0)/2$, or, 0.775, times 27 equals 20.925 grams, and 1.01 grams (since this range must be greater than 1.0 gram) times 2 equals 2.02 grams. This results in 38 berries having a combined weight of 25.42 grams, the average of which is 0.669 grams/berry for GA₃ (0.717 grams/berry for GA₄₊₇) – still too much. (Even when assuming that the 9 and 7 berries in question have individual weights of 0.01 grams each, i.e., 0.09 grams substituted in for the 2.475 grams above, the average weight for GA₃ becomes 0.606 grams/berry, and for GA₄₊₇ it becomes 0.671 grams/berry – again, too much.) Given that the disclosed mean fruit weight is substantially below what has been

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demonstrated mathematically above (0.47 grams vs. 0.669 grams), a substantial amount, let's call it "most" of the berries had to have weighed less than 0.6 grams.

4. Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have most of the cranberries have a mature mass of less than 0.6 grams, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 and *In re Peterson*, 65 USPQ2d 1379. In this case, most of the berries had to, at the very least, approach the less than 0.6 grams/berry limit, which then provides one of ordinary skill in the art at the time the invention was made motivation to experiment, in view of *in re Aller* and *in re Peterson*, with plant growth regulators, and when and how to apply them.

5. Claims 12 – 17, 19, 56 – 74, 76 – 80 and 87 – 89 are rejected as unpatentable over Stang et al. as applied to claims 1 – 11, 18, 55, 75, 81 – 86 and 90 above.

6. Regarding claims 12 – 17, 56 – 73, 76 – 80 and 87 – 89, Stang et al. demonstrate that while the relationship between GA₃ ppm and Fruit Set (%), and GA₃ ppm and Fruit Weight (g) do not appear to be linear, it would be obvious to one of ordinary skill in the art, upon examination of Table 3, to discern a trend – that trend being: increasing GA₃ ppm would tend to increase Fruit Set (%) and decrease Fruit Weight (g). Stang et al. disclose the claimed invention except for the ranges specified in the claims. It would have been obvious to one having ordinary skill in the art at the time the invention was made to discern the trends, and further to experiment, in order to find the specific ranges, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 and *In re Peterson*, 65 USPQ2d 1379.

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7. Regarding claim 19 and 74, Stang et al. do not explicitly state the application being by ground-driven application equipment. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use ground-driven application equipment, since the equivalence of ground-driven application equipment and hand-carried application equipment, for example, for their use in the agricultural application art and the selection of any known equivalents to any spraying-type applicator equipment would be within the level of ordinary skill in the art.

Response to Arguments

8. Applicant's arguments filed March 8, 2004 have been fully considered but they are not persuasive.

9. Examiner has attempted to clarify his inexplicable use of a theoretical distribution and to convey what the data tends to indicate, above, while maintaining the previous rejection.

Examiner has alternatively rejected claims 1 – 11, 18, 55, 75, 81 – 86 and 90 under 103(a) citing *in re Aller* and *in re Peterson* above.

10. Regarding argument referring to the Smith declaration, wherein “experts ‘failed to or simply did not believe that it would be possible to reach such levels of fruit set,’ ” examiner supposes the first alternative – given the option. That is, that the ‘experts failed to...reach such levels of fruit set’ and that more experimentation was obviously necessary.

Allowable Subject Matter

11. After conferring with Quality Assurance Specialist, Terry Melius, who can be reached at (703) 308-2171, the patentable subject matter of the claimed invention would appear to be the combination of claims 1, 3 and 6. Because Stang et al. disclose: (claim 1) a plant growth regulator, (claim 2) the applying step being during the mid-bloom period, and (claim 4) the composition being applied when about 50% - 90% (nearly the 100% actually disclosed) of flowers on the plants have opened, it would not cause undue experimentation on one of ordinary skill in the art to arrive at (claim 5) the composition being applied when about 60% - 80% of flowers on the plants have opened. The combination of claim 1 and (claim 3) a single applying step and (claim 6) the composition being applied when about 70% of flowers on the plants have opened would appear to overcome the prior art of record as not being disclosed or fairly taught and would be considered allowable.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Bret Hayes at telephone number (703) 306 – 0553. The examiner can normally be reached Monday through Friday from 5:30 am to 3:00 pm, Eastern Standard Time.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Teri Luu, can be reached at (703) 305 – 7421. The fax number is (703) 872 – 9306.

bh

11/1/04


TERI P. LUU
SUPERVISORY PRIMARY EXAMINER